

## **Certificate Course in Health Intranet System Administration (CHISA-2002)**

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## Important Dates

Application dead line	15th June, 2002
Late Application dead line	1st July, 2002
Selection Tests	20th - 25 th June, 2002
Registration Dead line	1st July,2002
Late Registration Dead line	10th July,2002
Phase-1 Classes begin	15th July, 2002
SBTET Certificate Examination <sup>1</sup>	December,2002
Phase-2: Internships begin	Jan, 2003
HISA Certificate Assenments	Nov/Dec, 2003

Make sure you receive a floppy disk containing the AForm software. This floppy should be used to copy the application data file and returned to the IHS office along with the printed and signed copy of the applicationdata form.

If you do not have access to a computer to run the AForm application, you may use one of the PC workstations at IHS. Ask the Front desk, the Course Co-ordinator, or the System Administrator at IHS.

Course Coordinator      E.Srinath

Associate Course  
Coordinators      V.Bhaskar  
                                 K.Mohanlal

Training Services Officer A.Padmaja

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<sup>1</sup> Refer to the SBTE&T Academic Calendar, copy of which is enclosed to this prospectus.

Prospectus price: Rs100/-  
Late application : Rs.150/-  
Late Registration: Rs.500/-

# **IHS Certificate in Health Intranet System Administration (HISA), & APSBTE&T Certificate in Administering and Implementing Windows NT Network.**

## **I. New and emerging careers in health informatics:**

1. Health care services is already a growing sector of the Indian economy. During the 21st century, the health care services sector will grow at a much faster rate. In India, the capacity for health care services is very low compared to what will eventually be required by the population. We have less than 1 hospital bed per 1000 persons. Most developed economies have more than 7 hospital beds per 1000 persons. Although there is some debate about too much dependence on hospitals, such discussions would not arise in the context of an economy characterised by gross inadequacy. We have a large and still growing primary health care sector, that suffer from poor efficiency. Capacity growth and quality of service enhancement in the health sector is going to happen both in the private and public sector. Health and education are the two sectors in which additional investments in the public sector are advocated by most economist, international monetary institutions like the IMF and the World Bank. India's economic liberalisation program, also envisages additional investments in the health and education sector.
2. Information technology is the fastest growing sector in the world as well as in India.
3. Application of information technology to the health sector has tremendous potentiality for efficacy of health care delivery institutions and provision of cost-effective health care. Widespread implementation of health informatic solutions like hospital information systems, presupposes existence of skilled manpower.
4. Health care delivery institutions will need and use information technology to meet their client demands and stay competitive, since, the future for them lies in cost-effective health care.
5. General purpose information technology solutions are usually inadequate for specialised needs of the health sector. That is why a host of solutions, standards and services are emerging to meet needs of the health sector. Application of information technology to the domain of health care delivery is referred to as **Health Informatics**. Health informatics is fast growing to be a well defined field of study, applied research, information technology business activity.
6. Building and operation of an Intranet, in the present environment, requires multiple skills like network engineering, network operating system skills, personal computer platform maintenance skills, etc. For health intranets, some domain knowledge about the special needs of doctors, hospitals and health care institutions, familiarisation with health informatic solutions etc. is required. Hospitals wanting to introduce computers for the first time would usually want some one readily available to fix emergent problems. Small hospitals can not afford to recruit a multi member team just to maintain the information system infrastructure. Hence there is a definite a need for a skill set that includes networking essentials, network

operating system administration, personal computer platform maintenance and familiarity with health informatic solutions. Persons with such skills will form an important component of the health information infrastructure of a country.

7. Although there are a plethora of institutions providing training in computers, there is hardly any program designed to meet the specific needs of the health sector.

## **II. The Institute of Health Systems (IHS):**

### **A. General**

1. IHS is a health systems research organisation with a strong program in use of information technology for health.
2. IHS is a non profit autonomous institution. An important goal of IHS is to promote application of information technology to the health sector and there by improve its efficacy.
3. The Institute has successfully conducted training program for health care personnel. For example the course on "Smart use of computers by health executives" has been well received and acclaimed by physicians and hospital administrators. Computer skills are integral part of any course offered by the Institute to medical and health personnel. This has helped build up required awareness among public health officials and medical administrators about the need for specialised system administration skills for building and maintenance of hospital networks and computing systems.

### **B. Computing Resources:**

1. **Computer lab facility:**
  - i. Up to two labs, with a total capacity of 30 nodes, are operated for training purposes. Students work on individually assigned machines.
  - ii. Standard tools required for hardware maintenance, cabling for networks etc. are available for hands on practical.
  - iii. Hardware components, consumable etc. are made available for hand on sessions.
2. **Personal workstations and software:**
  - i. All students are provided PC workstations in the computer lab.
  - ii. Software resources include, Windows NT, Novel Net ware, Linux, MS Back Office, Lotus Smartsuite and MS Office, etc.
  - iii. Software development platforms like C, C++, Visual basic, Java, etc. are available.
3. **IHS Local Area Network (LAN) and Wide area network (WAN):**
  - i. The 85 node Ethernet LAN provides the back bone for multiple network operating systems including Windows NT, Novel Net ware and Linux.
  - ii. Current as well as legacy personal computer systems coexist in the IHS LAN.
  - iii. The LAN is supported by a full time system administrator.
  - iv. IHS LAN can be accessed from any where in the country through the IHSNET.
  - v. IHSNET (Indian Health System Network) is a non profit closed user group wide area network for health information interchange. The IHSNET central server platform, based at IHS, is accessible round the clock through the I-Net.
  - vi. Other IHSNET resources include, health informatic standards, public domain soft ware, etc.
  - vii. IHS Intranet web site provides a knowledge base to faculty and students in relevant areas.

4. Databases:

- i. The AP Health Institutions Database (APHIDB) contains basic identifying information about all health care delivery institutions in Andhra Pradesh, including public, private and voluntary sector institutions.
- ii. Medflor-India is a database of medicinal flora in India. At present the database has complete published ethnobotanical information from Andhra Pradesh.

**C. Computer based training (CBT) resources:**

Selected CBT resources are available to meet the course requirement.

**D. Library and Bibliographic Resources:**

- i. The library has a collection of books and periodicals mostly in the area of health economics, health informatics, community health, quality assurance in health, health services research, health policy studies, vital and health statistics. A computerised catalogue is available for easy retrieval.
  1. Dial up **Internet connections** are available from the IHS library. Each student will be allowed upto 8 hours of Internet browsing through out the course. Internet browsing will be prior scheduling and reservation. Usage, over and above the free eligibility will be on payment of cost as per IHS library regulations.
  2. In addition IHS is an Institutional membership of the British library and the American Studies Research Center (ASRC). The British library is within walking distance.
  3. The library membership is free and you need not pay any amount.

**E. Faculty resources:**

1. The health information technology (HIT) group consists of software professionals, system administrators and network engineers who work have dual responsibilities for teaching and work on live projects.
2. Faculty have relevant academic qualifications and industry certification.
3. Faculty from other areas of IHS activity like health management, dissertation, and public health enrich the teaching program by providing domain specific knowledge, people skills.

**G. Guest Faculty:**

1. For some of the topics which need extra guidance, we conduct guest lectures as and when needed by experienced guest lecturers and System Administrators who would discuss the topic in more detail and even by conducting practical sessions if necessary.

### **III. Entry**

**A. Two distinct streams of students may enter the course.**

- i. Initial career: Graduates with basic computer education seeking to build a career in health care service and health informatics sector, and
- ii. Mid-career: Health care institution personnel seeking to diversify their skills and move on to the health informatics area.

**B. Eligibility**

1. Initial career:
  - i. A graduate degree in any subject.
  - ii. A basic training in computers. There will be an assessment of skills to ensure that candidates have minimum skills required for entry into the course.
  - iii. Age limit 35 years.
  - iv. An interest and aptitude for health informatic sector.
2. Mid-career:
  - i. Educational qualification & experience:
    - a. A graduate degree in any subject, OR
    - b. Diploma in an allied health field like Certificate of Nursing, Pharmacy etc. with at least three years of work experience in a health care institution.
  - ii. Age limit 45 years.
  - iii. An interest and aptitude for health informatic sector.
  - iv. Expression of interest and support from the health care institution concerned.

**C. Selection tests:**

Each candidate with a valid application is first screened to satisfy about (a) invited for the selection tests consisting of the following.

Test component	Description	Usage for Selection
Initial screening	Educational qualification, Age, and Mobility skill. Candidate should at least have skills to ride a two wheeler.	Qualifying
Online test of computer knowledge	A test is designed to include questions on computer systems, networks, operating systems, communications, database, etc. The questions are randomly drawn from a question bank. Total 50 multiple choice questions are included in the test. The test is administered online through a PC workstation assigned to each candidate for this purpose. Marks earned by the candidate are generated by the test application on the spot.	Competetive.
Type writing = 30 words per minute	Candidates are given two types of typewriting test using a typing software. Both line test and a lesson of running matter are included. Test is adminsterred through a computer with an examiner standing by to observe usage of fingers, touch type ability, etc. Speed as reported by the typing software is recorded.	Qualifying.
Personal Computing Skill Test	Candidates are examined about familiarity with input output devices, Windows 95/98 environment, office suite of applications and other software.	Qualifying
Career Interview	Candidate meets a faculty from the area of health informatics. Effort is to understand candidates aspirations and match with the course, aptitude for system administration, integration type of job, etc.	Competetive

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General Interview	Candidate meets a faculty from the public health area. Effort is made to understand his / her personality, interest in health care field, value systems, and match with IHS learning environment.
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Competitive = If everything else is equal between two candidates, the one with more marks in this test has preference. In case of interviews assessment by the faculty will be the basis of competition. Qualifying = Candidates are allowed to improve their speed and accuracy and take a repeat test, if they want.

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Results of all tests, including repeat tests of typewriting and PC skills, if any are placed before a selection committee which usually consists of the Course Coordinator, Training and Services Coordinator and the Institute Director or his nominee. Requests for reviews may be taken up in extraordinary situations and decision of the selection committee is final.

#### **D. Course content :**

##### **I Phase -I**

- i. PC System Administration and Troubleshooting.
- ii. Networking Essentials:
  - a. Introduction
  - b. The Physical layer
  - c. The data link layer
  - d. The network layer
- iii. Windows NT:
  - a. Overview of MS operating system family
  - b. Introduction to Windows NT
  - c. Introduction to user accounts
  - d. Introduction to share folders
  - e. Introduction to NTFS permissions
  - f. Introduction to Windows NT printing
  - g. Introduction to auditing
  - h. Using the event viewer
  - i. Introduction to the Windows NT Backup program
  - j. Installing Windows NT
  - k. Managing file systems
  - l. Supporting applications
  - m. The Windows NT networking environment
- iv. Linux and public domain softwares.
- v. Health Informatics.
- vi. The IHSNET (Indian Health Systems Networks).

##### **Personality Development:**

Once in a month you are required to give a presentation from the computer magazine chosen by you during the course. Each student should select a topic of his/her choice for presentation. You should select a topic reported in the computer magazine of your choice. You will make a presentation for seven minutes followed by three minutes of discussion. Practice your presentation beforehand.



**D. Spoken English Course:**

Presentation and language skills are important for people who want to build a career in the knowledge and information sector. It is found that many students, have difficulty in expressing themselves and are likely to benefit by cultivating presentation and expression skills. To meet this felt need, and facilitate improvement of vocabulary and presentation skills, the Institute arranges for conduct of Spoken English classes. Course fee is extra. The Institute accordingly subsidises part of the course fee.

**II Phase-2, Internship**

- i. On the job work.
- ii. Elected industry journal study and review.
- iii. Periodic evaluation of on the job learning and performance and feed back.

**E. Expected outcome :**

The students will be equipped to independently build local area networks and act as system administrators, maintain personal computers and fix common problems experienced by PC users. They will be trained to exchange information over a wide area network like the IHSNET.

**F. Learning Environment:**

1. Expect a different than a usual environment here. For example, You have to come prepared with assigned readings for the class. In other words you have to read, understand even before the lesson is taught to you in the class. Actually the classes here are used more to clarify doubts and clear concepts than to teach you.
2. Expect 'hands on work'. Get your own tool kits and learn to fit your own PCs.
3. Expect not to go home with clean hands and clothes.
4. STAR (Scope, Time Table and Assigned Readings):

What is STAR ?

Details of course contents, faculty profile, timings etc. are present in this which will help the students know the schedule for the following day allowing him to prepare for the topic well in advance.

How is STAR helpful ?

STAR consists of all the details that are to be discussed on that day. So depending upon the topic for that day, you have to read the required number of pages specified, understand the topic and keep your doubts ready. On the day of discussion of that topic you will be asked questions regarding the topic and then you should raise your doubts.

**G. Course timings and duration:**

1. This is a 15 month full time course consisting of two phases.

	Phase	Duration	Remarks
1 Skill <b>development</b> phase	Theory, practical and examination	3 months	Eligible for Examination by State Board of Technical Education <sup>1</sup> for Certificate in "Administering and Implementing Windows-NT Network".
2 Skill <b>application</b> phase	Internship i.e. on the job training	One year	Candidate must have received satisfactory completion of phase-1 certificate <sup>2</sup> from the training coordinator. Host Institutions is expected to pay stipend.

<sup>1</sup>

<sup>2</sup> The examination by the AP State Board of Technical Education is independent of the Institute's tests regarding completion of phase-1.

<sup>3</sup> Satisfactory completion of phase-1 will depend on the quality of educational input as well as the effort put in by the candidate. The quality of Institute's education program will ensure that its phase-1 training inputs enable at least 66% of candidates to satisfactorily complete phase-1. This assurance is given to commit the Institute to a predetermined quality of service standard and to emphasize to prospective students about the need for their own efforts and hard work.

Theory classes and lecture sessions will usually meet on all working days between 9 am to 1 p.m. Practical and project work schedule will be spread over the day.

**H. SBTET Examination:**

1. The Andhra Pradesh State Board of Technical Education and Training will conduct examination in the following papers and award a certificate.

Papers	Question type	Duration	No of questions	Total Marks
First paper	Objective	1 hour	50 questions	50
Second paper	Essay	2 hours		100
Third paper	Practical	1 hour		50

2. A candidate failing in any one of the three papers will be summarily disqualified and not eligible to appear for subsequent examinations.

3. Model papers received by the SBTET will be passed on to all students.

**I. Phase-2, Internship:**

1. To ensure that these candidates have enough exposure to the specific needs of health care institutions, a period of internship is prescribed. Students who successfully complete phase-1 will be eligible for the Internship.
2. Duration of internship is one year. During the internship, students will work full time in a health care institution, under the guidance of a local mentor and an IHS Faculty.
3. The health care institutions for internships may be located anywhere in the state of AP. **So expect to spend the year at locations out side of Hyderabad.**

4. The IHS faculty will pay periodical visits to review contributions by the intern to development and / or maintenance of the host institutions information system. However, the intern will be under the full administrative control of the host institution. The intern will play the role of a system administrator to the host institutions and where system administrators already exist, the intern will be attached to him / her as an assistant.

5. The Institute will make active efforts and assures internship placement for all candidates who successfully complete phase-1. However, candidates may also find out host institutions for internship. In that case, the Institute will satisfy itself about the suitability of the proposed host institution and availability of suitable mentors, etc. before approval can be given for internship.

6. The host institution will pay stipend to the intern according to their choice. The Institute recommends a stipend of Rs3000/- per month. However, actual stipend may vary between different host institutions.

## **J. Accreditation:**

1. The course includes coverage of Windows NT as prescribed by the AP State Board of Technical Education and Training during phase-1. The course has received accreditation<sup>2</sup> from the State Board of Technical Education and Training. Candidates completing phase-1 of this course will be eligible to write the common examination to be conducted by the AP State Board of Technical Education in collaboration with the JNTU, Hyderabad.

2. The Certificate for Administration of Health Intranets to be issued by IHS upon completion of phase-3 will receive accreditation for IHSNET Access Administration.

## **K. Tuition fee and other expenses:**

Phase	Tuition fee	Lab	Spoken English	Course material	Row total
1 Skill <b>development</b> phase	6,000	7,000	3,000	4,000	20,000
2 Skill <b>application</b> phase	3,000	0	0	1,000	4,000
All phases	9,000	7,000	3,000	5,000	24,000

<sup>2</sup>

Proceedings of the Chairman, State Board of Technical Education and Training  
No. SBTET/B1/5495/97 dated 15/5/1999.

2. Tuition fee and lab charge payable at the beginning of the term (phase).
3. In special and deserving cases installments may be considered.
4. Course material cost is an approximate estimate. Students will be billed as per actuals. Students will be required to deposit an advance for the course material. Accounts will be settled periodically based on actual usage.
5. For issue of any certificate or formal statement of training, candidates must have cleared all dues to the Institute, apart from satisfying respective academic requirement.

#### **A. L. Scholarships:**

The course has been approved by the AP BC Coop Finance Corporation and the AP SC Finance Corporation. For further details please contact the Managing Director's office of the concerned corporation at the following address..

Managing Director, AP BC Coop Finance Corporation, Telugu Samkshema Bhavan - 6th floor, Masab Tank, Hyderabad, AP 500028	Managing Director, AP SC Coop Finance Corporation, Telugu Samkshema Bhavan, Masab Tank, Hyderabad, AP 500028
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#### **M. PLACEMENT:**

There is a Placement Co-ordinator, in IHS to facilitate the placements in reputed hospitals and software companies. However, selection will depend upon your merit and effort. IHS role is to facilitate your placements. Note that placement record of CHISA students has been very good so far, as can be seen from the table below.

<b>Batch</b>	<b>Intake Number</b>	<b>Regular Placement</b>	<b>Intern Placement</b>	<b>Total Placement</b>
1999	22	64 %	5%	68 %
2000	18	34%	45%	78%
2001	22	10%	55%	65%

## **Application Procedure**

### **I. Entry selection steps:**

#### **A. Fill in the form and file it with the course coordinator.**

1. The prospectus includes a 1.44 MB floppy disk containing a software called AForm (Application Form). Install this software on any PC running Windows 95.
2. Fill in required data about yourself using the AForm.
3. Copy the Application data on a floppy disk. You can use the AForm floppy disk for this purpose. The disk has enough space to accommodate the data file.
4. If you do not have a computer at home, you can use one of the work stations at IHS.

#### **B. Take the Personal computer skill test at IHS.**

1. You can take this test on any working day. Prior scheduling will be desirable. The course coordinator will administer the entry test first to those who have scheduled in advance and then on an walk in basis.
2. The test consists of two parts:
  - i. Multiple choice questions on personal computers and personal computing.
  - ii. Practical test for those who pass the multiple choice question entry test.

#### **C. Take the Personality and health service orientation test:**

1. This will be in the form of interviews. Up to two faculty members will discuss with you about your interests, career plans, and how the proposed career path of health Intranet system administration will help you. Faculty members will be interested to learn about your interests and attitude towards the health care services sector.

#### **D. The course coordinator will inform you of the result within two business days of last test.**

#### **E. If you are selected in the entry test, you should pay required tuition fees within two days of receiving information about your selection. There after the seat will be offered to the next candidate in waiting.**

#### **F. After paying the tuition and other relevant fees;**

1. Collect the temporary student Id.
2. Course material if any and assigned readings for the first week.

#### **G. Permanent student Id will be prepared for you on the first day of the course**

## **AForm - User Manual**

There is a 1.44 MB floppy disk containing a software called AForm, which accompanies this prospectus. Install this software on any PC running Windows 95. (If you don't have a PC, you can use one of the work stations at the IHS)

### **Installing**

1. Please insert the floppy in and click on the start button
2. Go to run, click on it, a small window will be displayed, enter A:\setup.exe.
3. AForm setup will be displayed on your screen, click on O.K.
4. A screen with an icon on the top will be displayed. Click on it to continue the installation,
5. the software will be installed by default in c:\Program Files\AForm\.
6. However, if you prefer installing it on some other path, click on the tab on the right (change directory) and choose the path you prefer.

### **Wait**

7. A small screen with "AForm was successfully installed" will be displayed. Click O.K.
8. You will go back to your desktop.

### **Filling the application**

1. You have to submit the application form in both soft and hard copy (floppy and print out)
2. Before you fill in the form you need to select the default printer.
3. To do so, (i) click Start ----> Settings ----> Printers and click ii) the printer folder will be displayed (iii) select the relevant printer as the default printer (iv) close the settings.

### **Now you can start the AForm program**

1. Click start ---> programs --- -> AForm and click
2. A screen will be displayed with seven tabs on the top of the screen
3. Click on each tab to go to a page of the form you need to fill in (when you open the screen the personal details page will be displayed by default)
4. On the bottom of the last page there are two buttons - Save and Print,
5. Click on the Print button and take a printout
6. Now go to the Save button and click, this will save the information you have filled in.

### **Important note**

Please make sure that you click on every tab and fill in all the pages.